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BRINGING PRONUNCIATION INSTRUCTION BACK INTO THE CLASSROOM: AN ESL TEACHERS' PRONUNCIATION "TOOLBOX"

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Pronunciation is difficult to teach for several reasons. Teachers are often left without clear guidelines and are confronted with contradictory practices for pronunciation instruction. To date, there is no agreed upon system of deciding what to teach, and when and how to do it. Another challenge is the lack of immediate visible results, or a lack of carry-over: very often, students who practice a given pronunciation feature in class do well, but the minute they turn their attention to the message content, the practice effect vanishes. As a result of these difficulties, teaching pronunciation is often secondary, and teachers don't feel comfortable doing it. Yet researchers and teachers alike agree that pronunciation instruction is important and efficient in improving intelligibility and comprehensibility.

In this paper, we describe a new pronunciation curriculum for communication classes currently being designed for an intensive English program. Pronunciation instruction functions as a modular component fully integrated into the institutional learning outcomes across all levels of proficiency, addressing both the lack of carry-over, and the difficulty to teach pronunciation at early levels. Our goal is to provide teachers with enhanced confidence in applying strategies for pronunciation instruction that will contribute to their teaching "toolbox."

INTRODUCTION

Pronunciation is difficult to teach for several reasons. Teachers are often left without clear guidelines and are confronted with contradictory purposes and practices for pronunciation instruction. Indeed, there is no well-established systematic way of deciding what to teach, and when and how to do it (Derwing & Foote, 2011). For example, a common problem is deciding whether to focus on segmentals or on suprasegmentals, and to what extent (Derwing, Munro & Wiebe, 1998; Jenner, 1989; Prator, 1971; Zielinski, 2008). A related challenge is how to address production and perception. While there is ample evidence in the literature that both are necessary in a balanced approach to pronunciation development (e.g. Bradlow, Pisoni, Akahane-Yamada & Tohkura, 1997), the guidelines for teacher training and classroom materials are not well-defined. Another obstacle for teachers is the lack of carry-over of apparent improvement: very often, students who succeed with a given pronunciation feature practiced in controlled contexts lose it when they attend to meaning (Bowen, 1972). A further problem is the general lack of guidance from research in determining level-appropriate pronunciation activity. Only a few researchers, such as Gilbert (2001a; b), Jenner (1989) and Murphy (1991), theorize instructional differences based on proficiency level. In fact, most materials are written for high-level learners. To date, these complexities are part of the lack of adequate language teacher training in pronunciation, with the result that teachers may lack knowledge and confidence. In turn, pronunciation instruction is relegated to the sidelines of the curriculum if attended to at all (Derwing, 2010).

Yet researchers and teachers alike agree that pronunciation instruction is important in improving intelligibility (Derwing et al., 1998; Morley, 1991; Prator, 1971).

As pointed out by Derwing and Munro (2005) and Levis (1999), research can provide some insights into which pronunciation elements impact comprehensibility and foreign accent, and which – by extension – should be the focus of a pronunciation curriculum (Anderson-Hsieh, Johnson, & Koehler, 1992; Koster & Koet, 1993; Munro & Derwing, 1999). For instance, psycholinguistic evidence can provide support for an early focus on consonants over vowels in pronunciation instruction. Across languages, words with more distinct consonants are favored, while vowels tend to lose their distinctiveness more easily (e.g. vowel reduction, vowel harmony; Nespor, Peña & Mehler, 2003). Interestingly, for the recognition of words in running speech or for the acquisition of new words, consonants also play a more important role than vowels (Bonatti, Peña, Nespor & Mehler, 2005; Cutler, Sebastián-Gallés, Soler-Vilageliu & Van Ooijen, 2000; Nazzi & New, 2007) and vowel information appears to constrain lexical selection less tightly than does consonant information. In other words, a mispronounced consonant might be more detrimental to comprehensibility and word recognition than a mispronounced vowel. In the domain of suprasegmentals, psycholinguistic evidence shows that native English listeners make limited use of suprasegmental cues to stress in word recognition (pitch and intensity), and rely more on vowel quality, that is the alternation between reduced and unreduced vowels (Bond & Small, 1983; Cooper, Cutler & Wales, 2002; Fear, Cutler & Butterfield, 1995). Research in spoken word recognition can thus point to what aspects of nonnative speech production should be targeted in order for learners to acquire a pronunciation that is most comprehensible in relation to native speaker processing routines.

Following directly from research findings in first and second language phonological processing, pronunciation difficulties are also in part a result of inaccurate perception of the L2, which is due in part to the influence of the first language phonological system (see Sebastian-Gallés, 2005, for a review). For instance, since word pairs such as “light” and “right” may sound the same for Japanese learners of English, word learning is considerably more difficult, and results in problems building appropriate representations for the words in their mental lexicon (Darcy et al., 2012; Ota, Hartsuiker & Haywood, 2009; Pallier, Colomé & Sebastian-Gallés, 2001; Weber & Cutler, 2004). Japanese listeners’ inability to reliably distinguish those sounds also strongly increases their difficulty in learning how to articulate them (Goto, 1971; Sheldon & Strange, 1982). However, findings from training studies suggest that perception can be improved through training (e.g. Jamieson & Morosan, 1986; Lively, Pisoni, Yamada, Tohkura & Yamada, 1994; Logan, Lively, & Pisoni, 1991), and training in perception can also improve articulation abilities (Bradlow, Pisoni, Akahane-Yamada & Tohkura, 1997; Rvachew, Nowak & Cloutier, 2004). Pronunciation instruction should as much as possible target both perception and production abilities.

Research also suggests that providing pronunciation instruction early could maximize the benefits of L2 exposure (see Best & Tyler, 2007, for a review) because the bulk of perceptual and phonetic learning in late-onset SLA takes place within the first year of intensive exposure to the L2, implying that pronunciation is most malleable during the first few months. Therefore, for ESL contexts or in an intensive English program, pronunciation instruction is best implemented from the very beginning and should not be reserved for the higher levels.

In terms of implementation of pronunciation instruction, one of the major challenges is to enhance carry-over. Several authors have suggested focusing on meaningful and communicative

activities which are relevant to real life situations as a way to facilitate carry-over (e.g. Bowen, 1972; Celce-Murcia, Brinton, & Goodwin, 1996; Firth, 1987; Morley, 1991). Regardless of level, learners are exposed to all features of English pronunciation simultaneously. Yet it appears that learners at each level benefit from having specific pronunciation priorities (Gilbert, 2001a; Jenner, 1989; Missaglia, 1999). Our expectation for what they should be able to produce and what they should focus on should adapt to the type of structure that would enable that production. For instance, complex sentence stress patterns are not a reasonable goal for a person who struggles to produce complex sentences in the first place.

If and when the priorities of pronunciation instruction are delineated, implementation complexities remain. Although many teachers recognize their lack of knowledge or direction in teaching pronunciation (Derwing & Foote, 2011), evidence from teacher research suggests that changing a teacher's practices, or routinized teaching scripts, is very difficult (Johnson, 1999). Furthermore, the diffusion of innovation literature presents a rather negative history of curricular implementation particularly at the level of sustained classroom practices (Fullan, 2009). Without rigorous and long-term developmental support and training for teachers in situ, the likelihood of teachers theorizing new routines based on new beliefs is slim (Rogan, 2007). A single workshop, presentation, or curricular document will not be sufficient to impact teachers' long-term pronunciation or pedagogical content knowledge. In response to this potential barrier to effective implementation, it is necessary to provide teachers with sufficient on-going support through materials and specific teaching practices that are clearly linked to the overall goals of the curriculum and not too distant from the teachers' current beliefs and practices.

In summary, this review of the literature leads us to propose six principles for designing a pronunciation curriculum, which can be followed in a variety of teaching and learning contexts:

1. Pronunciation elements for instruction are selected based on insights of processing research.
2. Pronunciation instruction incorporates both production and perception.
3. Pronunciation instruction starts in the early levels.
4. Pronunciation instruction is embedded, both within the curriculum as a whole, and within each lesson locally: Pronunciation is not taught separately from, but rather becomes an integral part of, general language instruction.
5. The curricular component is adaptive: there are different selections and priorities for each level.
6. Implementation of a pronunciation curricular component depends on ongoing teacher development.

CONTEXT: THE INTENSIVE ENGLISH PROGRAM AT INDIANA UNIVERSITY

In our own context of teacher training and language learning at Indiana University, we have experienced the many dilemmas of pronunciation instruction mentioned earlier. Although currently students in the MA TESOL program are required to take a course in methodologies for teaching pronunciation, the curriculum of the Intensive English Program (IEP) in the same department does not specifically articulate goals, objectives, and outcomes for pronunciation development. For this reason, efforts have begun to link activity in the MA TESOL program directly to the curriculum of the IEP.

The IEP at Indiana University is a program for pre-matriculated students who range in proficiency from true beginning to low advanced. About two-thirds of the incoming students

plan to enter undergraduate programs and one-third graduate programs. Seven levels of instruction are offered, and students are in class between four and five hours daily. We offer six 7-week sessions per year. Most students enroll in three or four sessions sequentially, and the majority initially tests into Level Four, (low) intermediate, or above. The principal orientation of the instruction targets English for General Academic Purposes. The curriculum is based on specified “Learning Outcomes” (LO) for both Literacy and Oracy. Currently, there are no specific pronunciation outcomes although the successful accomplishment of oracy outcomes necessitates that students be judged as both intelligible and comprehensible. Without specific guidance on how to develop these abilities, pronunciation is addressed haphazardly depending on available textbooks, tasks, and teacher awareness in Levels One through Five. A dedicated pronunciation elective is offered for Level Six or Seven learners, meeting the needs of only a small subset of students.

We next describe the process and product of bringing pronunciation instruction back into our classrooms while enhancing our teachers’ pronunciation “toolbox” with knowledge and confidence.

Details of the Curriculum

While the specifics of our “toolbox” may not be generalizable to other programs directly, the principles behind its development are: We emphasize the importance of building on research advances in speech processing for the selection of pronunciation elements (*Principle 1*), and of engaging learners in explicit listening and speaking practice (*Principle 2*) across the levels of proficiency. Further, it is important to address elements of pronunciation from the beginning of instruction (*Principle 3*). The next principle is to implement pronunciation instruction throughout the curriculum, and within each lesson (*Principle 4*). In low-level lessons, instruction is fully embedded (or ‘contextualized’ maximizing relevance for learners, as in Bowen, 1972), and inseparable from its direct function. In mid-level lessons, instruction still focuses on use within meaning-based activities, but can selectively incorporate awareness raising activities. Only in high-levels does pronunciation start to be taught independently, incorporating more metalinguistic knowledge. The fifth principle is to create activities that are appropriate for specific levels of proficiency (*Principle 5*). Finally, the last principle is to provide ongoing teacher development in pronunciation instruction, linking new practices and understandings to the teachers’ previous experience (*Principle 6*).

We now detail what elements are prioritized for three levels of proficiency: low-levels (true beginners to high-beginning), mid-levels (low-intermediate to intermediate), and high-levels (high intermediate to low advanced).

Low-Levels: Survival.

Crucially, instruction at lower levels establishes the foundation upon which other elements build. It is strongly word-based: pronunciation elements are introduced through the specific words in which they occur; sentence-level elements can be introduced as soon as learners have sufficient proficiency to formulate sentences. Metalinguistic descriptions are avoided, as learners do not know the necessary vocabulary to understand metalinguistic descriptions. Each element derives from real-world, survival functions, with the goal being basic intelligibility and negotiation of meaning. Lexical items are introduced with their stress pattern. To a limited extent, phoneme-grapheme correspondences are addressed in order to enable students to spell out words or names for clarification.

At low-levels, the major focus targets the basic phonemic inventory in order for learners to start parsing the speech stream (see Table 1). Segmental features (particularly consonants) that have high impact on intelligibility are prioritized. Others which are said to have less impact (such as clear and dark [l], or [ð]- [θ] which are exchangeable with [s] / [z] without much intelligibility loss on the part of native listeners; Jenkins, 2002) are more peripheral at first, but can be integrated once the most fundamental consonantal contrasts are in place. More research is needed, however, on defining a hierarchy of consonantal contrasts for intelligibility purposes. In the suprasegmental domain, understanding the basic stress timing of English and the rising and falling intonational shapes often associated with declarative and simple interrogative sentences can help shape the discourse and give listeners a basis for repair.

Table 1

Pronunciation Elements for Low-levels

Segmentals	Element of phonics (spelling)
	Practice alphabet; consonants of English
	Vowel length
	Final consonants and clusters
Suprasegmentals	Basic intonation
	Intonation: declarative, question, request vs. apology
	Sensitize to stress-timing; stress perception

Each of these elements can be integrated into the content of communicatively-oriented lessons. When a new word is introduced, relevant pronunciation features will be brought to learners' attention.

Mid-Levels: Clarity and Awareness.

Certain elements might be introduced with metalinguistic speech, but the focus of instruction remains on embedding pronunciation within the function being addressed. That is to say, pronunciation practice should not require the collection of separate materials and example sentences, but rather should derive from the content of normal instruction. One aspect of mid-level instruction is making students *aware* of phonotactics and connected speech phenomena, in order to develop self-monitoring skills (Firth, 1987). During presentations, conversations, and listening activities typical in oral communication classes, the teachers can focus learners' attention on suprasegmental awareness and imitation. Accuracy can be expected when learners focus on the pronunciation form; however, carry-over exercises can be gradually implemented to encourage attention to form when the focus is on meaning.

For mid-levels, the major goal remains the minimization of the negative effects of pronunciation on intelligibility (see Table 2). The basic phonemic inventory is assumed to be in place, possibly with isolated L1-dependent difficulties specific to each learner. At this level, relatively accurate full and reduced vowels are required for ease of comprehension. Stress and intonation play a central role in increasing the ease with which interlocutors can repair segmental errors. Sentence stress and the production and perception of strings of words, or strings of sentences are now the

focus of increasing suprasegmental work. Word-level elements are still important but of less relative weight.

Table 2

Pronunciation Elements for Mid-levels

Segmentals	Elements of phonics
	Tense and Lax vowels
	Final consonants and clusters (review of low-levels)
Suprasegmentals	Word stress
	Sentence stress, Intonation
Phonotactics	Vowel Reduction (Schwa)
	Rhythm
	Linking

High-levels: Accuracy / Attention.

At this level, students have to adjust to academic register for better participation in the academic community. Individual difficulties with specific articulations can be addressed through common resources made available to students outside of class-time or through individual tutoring, but lesson planning proceeds with the assumption that students are aware of the major elements of English pronunciation. Activities that develop vocabulary for the academic register (i.e. debates, presentations, interviews) can be used to develop carry-over through having students pay attention to form while focusing on meaning (Bowen, 1972; Morley, 1991).

At high-levels, the focus is on accuracy even when attention is on meaning (see Table 3). The main goal is now to facilitate and develop carry-over. The emphasis shifts from the amount of speech listeners can understand (intelligibility) to the degree of difficulty in doing so (comprehensibility). The teacher expects a high degree of phonological accuracy even when the focus is not on pronunciation, in order to practice and establish carry-over. It is only in the higher levels that pronunciation instruction can become independent of its function, and can be taught “on its own.” This can entail metalinguistic/linguistic terminology, specific descriptions of phonological phenomena, metacognitive awareness, or introducing parts or all of the phonetic alphabet, with the goal of providing students with appropriate tools to analyze, control and monitor their own speech.

Table 3

Pronunciation Elements for High-levels

Segmentals	Vowels (+phonics), or individual needs
Suprasegmentals	Intonation patterns, sentence stress
	Stress
Phonotactics	Linking , phonotactics
	Register awareness

CURRICULUM DEVELOPMENT PROCESS

Teacher Survey

At the beginning of the pronunciation curriculum development process, the teachers in the IEP were surveyed regarding their beliefs and practices of teaching pronunciation (see appendix). The main motivation for the survey was to understand the status of pronunciation instruction in daily practice in the IEP. A related goal was also to include the teachers in the curriculum development process to promote “buy in” for eventual implementation. In total, 14 teachers participated; all were native speakers of English. They reported on average 5.5 years (range: 5 months to 24 years) of teaching experience.

The survey was administered anonymously on a voluntary basis. It consisted of 15 questions in four categories: the importance of pronunciation instruction for student success; what pronunciation elements are central to intelligible pronunciation; the relative importance of instruction on specific elements at different proficiency levels; and, whether and/or how teachers teach pronunciation. The ratings were given on a Likert scale of 1 (very important) to 7 (irrelevant). In regard to the first category, analysis of responses shows that the teachers as a whole consider pronunciation instruction very important if not crucial for the lives of their students across almost all contexts and situations. For communication classes, no respondent gave pronunciation a rating below “very important”. For daily life, 92 percent gave a rating of either 1-2 or 3-4 (“important”). Only 8 percent indicated a rating of 5 (“somewhat important”). No rating was below 5. There was no significant correlation between the amount of teaching experience and the importance attributed to pronunciation (Pearson’s $r = 0.12$, $p > .6$), suggesting that both experienced and novice teachers converged in their positions.

In the second category, participants were asked to indicate which pronunciation elements they thought were the most important for students to master. Only 13 participants answered this question. There were 10 items to choose from (see Figure 1) and two items marked “other”, for which they could indicate non-listed features. The ranking of each item included in the top-five list for each participant was transformed in a point value: items ranked first were given 5 points, those ranked second were given 4 points, third place 3 points, fourth place 2 points, and each item ranked last in the list was given 1 point. The maximum possible weight to be assigned was 65, which would be the maximum point value obtained by an item that has been ranked first by all 13 respondents. The results are presented in Figure 1. There was convergence of opinion around intonation/stress, rhythm, perception ability, clarity of individual sounds (consonants, enunciation), and specific vowels.

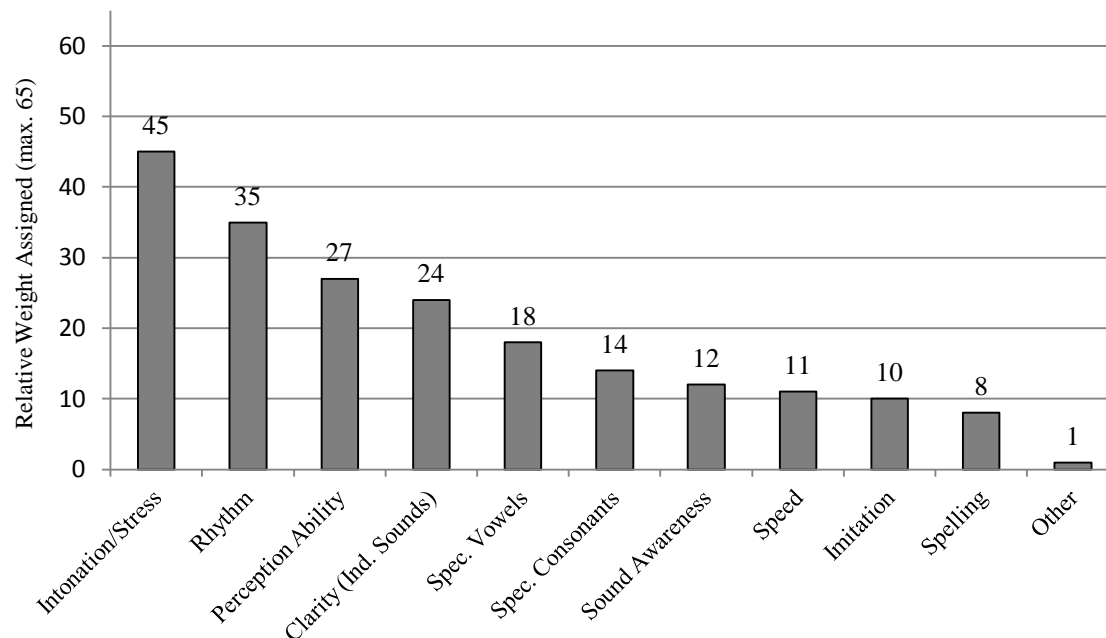


Figure 1. Relative weight assigned to different pronunciation elements by teachers in our survey.

In the third category, participants were asked whether they thought certain pronunciation features should be taught at specific times, for a certain amount of time, or in a particular relationship with each other. The results indicate that teachers believe the amount of instruction on specific features should shift across levels of proficiency. More specifically, while the amount of instruction focusing on segmentals diminishes with increasing proficiency, attention to suprasegmentals increases. In other words, learners with higher levels of proficiency should pay more attention to suprasegmentals relative to segmentals, and this relationship is reversed for learners at lower levels of proficiency. Instruction regarding phonotactics and connected speech was seen as important for attention across all levels of proficiency but never outranked either segmentals or suprasegmentals.

However, in spite of their clear appreciation of the importance of pronunciation instruction and detailed awareness of which features should be addressed, how much, and when they should be addressed across the levels of the program, the majority of the teachers indicated that they did not teach pronunciation at all (71 percent). Some provide a diagnostic task early in the course (28 percent), but only two of them (14 percent) indicated that they also use a post-test with a specific pronunciation rubric for evaluation.

The results clearly showed that teachers find pronunciation instruction difficult to manage: Reasons mentioned in our survey included the amount of time available (43 percent), lack of training (25 percent), and the need for more guidance and institutional support (18 percent). This confirms previous observations (Derwing & Foote, 2011). However, an important outcome of the survey was the teachers' overall consistency in ascribing particular elements to specific levels of instruction and the relative importance among these elements. Although little research has been done on which elements are best addressed at different levels of proficiency, the results of the teachers' survey are strikingly similar to those theorized by Jenner (1989).

Discussion and conclusions

The potential benefits of this curricular component are twofold. Students will learn from the beginning that pronunciation is normal and necessary for intelligibility/comprehensibility; Teachers will incrementally learn more about pronunciation and its instruction. We argue that pronunciation instruction should not be separated from the rest of language instruction and should be a constant and integral part of every lesson, thus addressing teachers' current concern about time limitations.

Of course, several difficulties remain to be addressed. First among them, is the ongoing lack of materials including task-types for specific elements which need to be adaptable to the curricular content already in place. In Celce-Murcia et al. (1996, pp. 52-57), their communicative framework for pronunciation instruction with its sequence of five task-types (1. Description and analysis, 2. Listening discrimination, 3. Controlled practice, 4. Guided practice, 5.

Communicative practice) is very well-suited for advanced learners, but some reorganization of these task-types seems necessary for low and mid-level learners. For example, the first two steps require metalinguistic analysis/description of phonological phenomena, a significant stretch for true beginners who cannot yet formulate sentences. Even "learner appropriate" descriptions of articulations will be difficult to adjust to the lowest proficiency levels. It is more likely that only the third step, "controlled practice," is effective from the beginning. Steps 2 and 4 ("listening discrimination" and "guided practice") could be added at the mid-levels, but at high-levels only could all five steps be implemented. Furthermore, the pronunciation elements for each level of proficiency suggested above only *imply* attention to both perception and production, but each of these will need to be operationalized in relation to appropriate task-types.

Another difficulty will be organizing the time to allow for teacher/research collaboration in the ongoing development of these classroom materials. Without teacher involvement in this process, the implementation is less certain. Although all the teachers will not be able to participate in the production of all the materials, early engagement with the principles in developing even a few activities for a single level will substantially increase coherence between teachers, levels, and the outcomes of the program. This too will facilitate pronunciation becoming a normal component of language teaching rather than a separate, disconnected, and sometimes devalued activity for both teachers and learners.

In spite of the necessary training and materials development yet to be done, the principles of this curriculum design project have guided the development of adaptable tasks for some pronunciation elements which are embedded within our curriculum. As we continue this work, understanding gained from further research on pronunciation development and instruction will continue to inform our curricular choices and teaching practices.

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REFERENCES

- Anderson-Hsieh, J., Johnson, R., & Koehler, K. (1992). The relationship between native speaker judgments of nonnative pronunciation and deviance in segmentals, prosody, and syllable structure. *Language Learning*, 42, 529-555.
- Best, C. T., & Tyler, M. D. (2007). Nonnative and second language speech perception. Commonalities and complementarities. In O.-S. Bohn & M. J. Munro (Eds.), *Language experience in second language speech learning: In honor of James Emil Flege* (pp. 13-34). Philadelphia: John Benjamins.
- Bonatti, L. L., Peña, M., Nespor, M., & Mehler, J. (2005). Linguistic constraints on statistical computations. *Psychological Science*, 16, 451-459.
- Bond, Z., & Small, L. (1983). Voicing, vowel, and stress mispronunciations in continuous speech. *Attention, Perception, & Psychophysics*, 34, 470-474.
- Bowen, J. D. (1972). Contextualizing pronunciation practice in the ESOL classroom. *TESOL Quarterly*, 6, 83-94.
- Bradlow, A. R., Pisoni, D. B., Akahane-Yamada, R., & Tohkura, Y. i. (1997). Training Japanese listeners to identify English /r/ and /l/: IV. Some effects of perceptual learning on speech production. *Journal of the Acoustical Society of America*, 101, 2299-2310.
- Celce-Murcia, M., Brinton, D. M., & Goodwin, J. M. (1996). *Teaching pronunciation*. Cambridge: Cambridge University Press.
- Cooper, N., Cutler, A., & Wales, R. (2002). Constraints of lexical stress on lexical access in English: Evidence from native and non-native listeners. *Language & Speech*, 45, 207-228.
- Cutler, A., Sebastián-Gallés, N., Soler-Vilageliu, O., & Van Ooijen, B. (2000). Constraints of vowels and consonants on lexical selection: Cross-linguistic comparisons. *Memory & Cognition*, 28, 746-755.
- Darcy, I., Dekydtspotter, L., Sprouse, R. A., Glover, J., Kaden, C., & McGuire, M. (2012). Direct mapping of acoustics to phonology: On the lexical encoding of front rounded vowels in L1 English-L2 French acquisition. *Second Language Research*, 28, 5-40.

- Derwing, T. (2010). Utopian goals for pronunciation teaching. In J. Levis & K. LeVelle (Eds.), *Proceedings of the 1st Pronunciation in Second Language Learning and Teaching Conference*, Iowa State University, Sept. 2009. (pp. 24-37). Ames, IA: Iowa State University. <http://apling.public.iastate.edu/PSLLT/2009/>
- Derwing, T., & Foote, J. (2011). 2010 National survey of pronunciation teaching: Deja vu. Paper presented at the *Annual Association for Applied Linguistics*, Chicago, IL, March 26, 2011.
- Derwing, T., & Munro, M. (2005) Second language accent and pronunciation teaching: A research-based approach. *TESOL Quarterly* 39, 379-397.
- Derwing, T. M., Munro, M. J., & Wiebe, G. (1998). Evidence in favor of a broad framework for pronunciation instruction. *Language Learning*, 48, 393-410.
- Fear, B. D., Cutler, A., & Butterfield, S. (1995). The strong/weak syllable distinction in English. *The Journal of the Acoustical Society of America*, 97, 1893-1904.
- Firth, S. (1987). Developing self-correcting and self-monitoring strategies. In P. Avery & S. Ehrlich (Eds.), *The teaching of pronunciation: An introduction for teachers of English as a second language [Special issue]*. *TESL Talk*, 17, 148-152.
- Fullan, M. (2007). *The new meaning of educational change, 4th edition*. New York: Teachers College Press.
- Gilbert, J. (2001a). *Clear speech from the start: Basic pronunciation and listening comprehension in North American English*. New York: Cambridge University Press
- Gilbert, J. (2001b). Six pronunciation priorities for the beginning student. *The CATESOL Journal*, 13, 173-182.
- Goto, H. (1971). Auditory perception by normal Japanese adults of the sounds "l" and "r.". *Neuropsychologia*, 9, 317-323.
- Jamieson, D. G., & Morosan, D. E. (1986) Training non-native speech contrasts in adults: Acquisition of the English /ð/- /θ/ contrast by francophones. *Perception & Psychophysics*, 40, 205-215.
- Jenkins, J. (2002). A sociolinguistically based, empirically researched pronunciation syllabus for English as an international language. *Applied Linguistics*, 23, 83-103.
- Jenner, B. (1989). Teaching pronunciation: The common core. *Speak Out!* 4, 2-4.
- Johnson, K. E. (1999). *Understanding language teaching: Reasoning in action*. Boston, MA: Heinle & Heinle Publishing Co.
- Koster, C. J., & Koet, T. (1993). The evaluation of accent in the English of Dutchmen. *Language Learning*, 43, 69-92.
- Levis, J. (1999). Intonation in theory and in practice, revisited. *TESOL Quarterly*, 33, 37-54.
- Lively, S. E., Pisoni, D. B., Yamada, R. A., Tohkura, Y. i., & Yamada, T. (1994). Training Japanese listeners to identify English /r/ and /l/. III. Long-term retention of new phonetic categories. *The Journal of the Acoustical Society of America*, 96, 2076-2087.

- Logan, J. S., Lively, S. E., & Pisoni, D. B. (1991). Training Japanese listeners to identify English /r/ and /l/: A first report. *The Journal of the Acoustical Society of America*, 89, 874-886.
- Missaglia, F. (1999). Contrastive prosody in SLA: An empirical study with Italian learners of German. In *Proceedings of the 14th International Congress of Phonetic Sciences*, Vol. 1, pp. 551-554.
- Morley, J. (1991). The Pronunciation component in teaching English to speakers of other languages. *TESOL Quarterly*, 25, 114-153.
- Munro, M. J., & Derwing, T. M. (1999). Foreign accent, comprehensibility, and intelligibility in the speech of second language learners. *Language Learning*, 49, 285-310.
- Murphy, J. (1991). Oral communication in TESOL. Integrating speaking, listening and pronunciation. *TESOL Quarterly*, 25, 51-75
- Nazzi T., & New, B. (2007). Beyond stop consonants: Consonantal specificity in early lexical acquisition. *Cognitive Development*, 22, 271-279
- Nespor, M., Peña, M., & Mehler, J. (2003). On the different roles of vowels and consonants in speech processing and language acquisition. *Lingue e Linguaggio*, ii, 221-247.
- Ota, M., Hartsuiker, R. J., & Haywood, S. L. (2009). The KEY to the ROCK: Near-homophony in nonnative visual word recognition. *Cognition*, 111, 263-269.
- Pallier, C., Colomé, A., & Sebastian-Gallés, N. (2001). The influence of native-language phonology on lexical access: exemplar-based versus abstract lexical entries. *Psychological Science*, 12, 445-449.
- Prator, C. H. (1971). Phonetics vs. phonemics in the ESL classroom: When is allophonic accuracy important? *TESOL Quarterly*, 5, 61-72.
- Rogan, J. D. (2007). An uncertain harvest: a case study of implementation of innovation. *Journal of Curriculum Studies*, 39, 97-121.
- Rvachew, S., Nowak, M., & Cloutier, G. (2004). Effect of phonemic perception training on the speech production and phonological awareness skills of children with expressive phonological delay. *American Journal of Speech-Language Pathology*, 13, 250-263.
- Sebastian-Gallés, N. (2005). Cross-language speech perception. In D. B. Pisoni & R. E. Remez (Eds.), *The Handbook of Speech Perception* (pp. 546-566). Malden, MA: Blackwell Publishing.
- Sheldon, A., & Strange, W. (1982). The acquisition of /r/ and /l/ by Japanese learners of English: Evidence that speech production can precede speech perception. *Applied Psycholinguistics*, 3, 243-261.
- Weber, A., & Cutler, A. (2004). Lexical competition in non-native spoken-word recognition. *Journal of Memory and Language*, 50, 1-25.
- Zielinski, B. W. (2008). The listener: No longer the silent partner in reduced intelligibility. *System*, 36, 69-84.

APPENDIX

IRB 1103004925 Pronunciation Survey

GENERAL

- How long have you been teaching in the IEP/ELIP?
- Is English your native language?..... If not, what is your L1?
- What classes have you taught in the last 2 years (e.g. communication (level 2))

TEACHING PRONUNCIATION

1. What level of importance (from 1 to 7) would you assign to pronunciation in the following contexts?

	<i>very important</i>		<i>important</i>		<i>somewhat important</i>		<i>irrelevant</i>
<i>place an "X" below your rating:</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
Reading and Writing:							
Grammar:							
Communication:							
Content-based electives:							
Other classes:							
In daily life:							

Optional comment:.....

2. Do you think that a student's pronunciation affects his/her performance in class? Do you encounter most often issues of student comprehension, production, or both?
3. If/When you do address pronunciation, what type of instruction do you typically offer? What specific things are covered? (For example, do you mostly attend to specific sounds, specific words, stress, intonation, flow, linking, etc.) (Please include the level and skill)
4. What difficulties or reservations do you have about instruction in pronunciation?
5. What advice would you give to new teachers about teaching pronunciation?
6. Rank "your top five" out of the following items in terms of what best determines "good English pronunciation" (rank them from 1 to 5)

Speed of speaking		clarity of pronunciation of the individual sounds		correct vowels	
Fluent "English" rhythm (stressed/unstressed, as opposed to choppy)		ability to perceive differences		ability to imitate	
knowledge of English spelling		high awareness about English sounds		other:	
correct intonation and correct stress		R/L or P/B difference (or similar), i.e. consonants		other:	

7. In your experience, what do you think is the most central reason that precludes students from improving in pronunciation? (check all that apply)

- a. ☐ not enough time spent on pronunciation in prior classes or prior to their arrival in the US
- b. ☐ the exercises we do in class don't work because they are ill-fitted for mixed classrooms
- c. ☐ they improve in class, but there's no "carry-over"
- d. ☐ not enough practice on their part at home
- e. ☐ they are fossilized: there's no way they will improve
- f. ☐ they don't care about it / they are not interested in the exercises (no motivation)
- g. ☐ Students have a wrong conception of where their difficulties lie (for instance, they think it's about R/L only), so they don't benefit from the exercises.
- h. ☐ their native language
- i. ☐ English spelling not mastered
- j. ☐ they are too old
- k. ☐ they do not listen or try to change
- l. ☐ they are embarrassed/shy, so they don't speak
- m. ☐ don't really want to lose their accent for integrative reasons with peers
- n. ☐ they don't speak much outside of class – too few "real" interactions
- o. ☐ they don't have many American/native speakers friends
- p. ☐ other : _____

7b. What else do you think students could/should do on their own to improve their pronunciation?

- 8. Do you believe that teachers should address spelling as it relates to pronunciation in English? *In your current practice*, do you often talk about the spelling of a word as it relates (or doesn't) to its pronunciation in your own classes? (Please include level and skill)
- 9. In your experience, how important is listening comprehension for pronunciation progress?
- 10. Do you typically establish a diagnosis/evaluation of pronunciation errors for each student? (Of the type *entry* and *exit* diagnosis? Or in other ways?): *yes* *no*
 - a. If yes, how? If not: do you think it would be important to do?
 - b. If yes, does it influence the selection of materials you cover in terms of pronunciation?
 - c. What is difficult /challenging about diagnosing or evaluating pronunciation?
 - d. Do you formally/systematically evaluate pronunciation difficulties and progress? (if yes, what's your preferred method? examples: audio journal, tabulations of corrections in class, etc)

11. Students sometimes expect to become “native-like” in pronunciation. Do you often have to address this kind of misplaced expectations? Or do you rather encounter the opposite: they don’t think intelligibility is important?
12. Do you think using a phonetic alphabet (e.g. IPA) is useful for students?
13. How do you handle the lack of first language-homogeneity in classes, in terms of pronunciation?
14. Have you tried to include real life contexts in class for pronunciation instruction? How did it work out for you?
15. Is there something you would like to do in class (about pronunciation) but can’t do (reason)?

If pronunciation were integrated into the curriculum, how would you rank the importance of teaching of the following items on a scale of 1-7, with 1 being very important, and 7 being unimportant?

Items:		For low level students (1-2)	For mid-level students (3-5)	For high level students (6-7)	Additional Comments (Optional)
Articulation of consonants in general					
Specifically:	Individual consonants				
	Flapping of T and D (The [ɾ] in “water,” “bottle,” etc.)				
	Other allophones (Ex: [p ^h] in ‘pie’ vs. [p] in ‘spy’)				
Others (please specify: _____)					
Articulation of vowels in general					
Specifically:	Individual vowels				
	Vowel duration (long/short)				
	Tense vowels vs. lax vowels (Ex: beat vs. bit, boot vs. book)				
	Schwas and vowel reduction (“communication”)				
	Diphthongs / Vowel blends (boy, bite, bout)				
Others (please specify: _____)					
Suprasegmentals in general					
Specifically:	Word stress (present vs. present)				
	Sentence-level focus (“I don’t love her” vs.				

	"I don't love <i>her</i> "				
	Intonation (e.g. questions)				
	Rhythm (stress-timed)				
	Flow / Fluency				
Others (if needed) (please specify: _____)					
Connected speech/phonotactics in general					
Specifically:	Linking (Ex: picked up → like 'pick-tup')				
	Contraction (going to → gonna)				
	Syllable-initial clusters (i.e. <u>pl</u> ay, <u>sp</u> ot, etc.)				
	Syllable-final consonants and clusters (i.e. be <u>t</u> , ki <u>ds</u> , te <u>x</u> t, mo <u>n</u> th <u>s</u> , etc.)				
Other issues (please specify: _____)					